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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,757	01/27/2004	Rong-Chang Liang	07783.0088.NPUS000	2261
27194	7590	03/13/2006	EXAMINER	
HOWREY LLP C/O IP DOCKETING DEPARTMENT 2941 FAIRVIEW PARK DRIVE, SUITE 200 FALLS CHURCH, VA 22042-2924			TRA, TUYEN Q	
			ART UNIT	PAPER NUMBER
			2873	

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/766,757	<b>Applicant(s)</b> LIANG ET AL.	
	<b>Examiner</b> Tuyen Q. Tra	<b>Art Unit</b> 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 45-64 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-15, 45-61, 63 and 64 is/are rejected.
- 7) ☒ Claim(s) 8, 9 and 62 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 10, 12-15, 45, 46-59 and 64 are rejected under 35 U.S.C. 102(e) as being anticipated by Zang et al. (U.S. 2003/0207963 A1).

a) With respect to claims 1 and 2, Zang et al. discloses a capsules for electrophoretic displays and methods for making the same in Figure 3 comprising of non-aqueous electrophoretic capsules (Paragraph [0022]) comprising a halogenated polymeric shell and an electrophoretic composition enclosed therein wherein the electrophoretic composition comprises charged pigment particles or pigment-containing microparticles dispersed in a dielectric solvent (Paragraph [0032] discloses halogenated/fluorinated polymer/oligomer).

b) With respect to claims 45 and 46, Zang et al. discloses a capsules for electrophoretic displays and methods for making the same in Figure 3 comprising of non-aqueous electrophoretic capsules comprising a halogenated polymeric shell and an electrophoretic composition enclosed therein wherein the electrophoretic composition comprises charged pigment particles or pigment-containing microparticles dispersed in a dielectric solvent (col. 9, lines 29-36, table 1), a binder binding the non-

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aqueous capsules, and a first substrate on which the capsules and binder are coated (col. 22, lines 7-20).

c) With respect to claims 3-5 and 57-59, Zang et al. discloses wherein the dielectric solvent is a halogenated solvent or solvent mixture; wherein the halogenated solvent is a fluorinated solvent having a fluorine content higher than 20% by weight; wherein the halogenated solvent is a fluorinated solvent having a fluorine content higher than 50% by weight.

d) With respect to claims 10, 12 and 64, Zang et al. discloses wherein the electrophoretic composition further comprises a charge control agent (col. 17, line 65).

e) With respect to claims 13-15, Zang et al. discloses wherein the additive is a catalyst for the shell-forming reaction, a charge adjuvant, an electrolyte, an antioxidant, a UV stabilizer, a singlet oxygen quencher, a gas absorber, a surfactant, a protective colloid or polymeric dispersant or a rheology modifier; wherein the additive is halogenated; wherein the additive is fluorinated (col. 2, line 50-col. 3, line17).

f) With respect to claims 47-51, Zang further disclose wherein a second substrate disposed onto the capsule layer; wherein at least one of the two substrates is an electrode substrate; wherein at least one of the two substrates is transparent; wherein at least one of the substrates comprises an electrode layer facing the capsule layer; wherein the substrate or electrode layer is disposed onto the capsule layer by coating, printing, vapor deposition, sputtering, lamination or a combination thereof.

g) With respect to claims 52-56, Zang further disclose wherein the protective overcoat comprising a particulate filler; wherein the electrophoretic display device

further comprises an overcoat on the non-capsule-coated surface of the first substrate; wherein the electrophoretic display further comprising an overcoat on the non-capsule-contacted surface of the second substrate.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 7, 60 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zang et al. (U.S. Pat. 6,262,833 B1), as applied to claim 1 above, in view of Rao et al. (US Pat. 6,372,838B1)

Zang et al. discloses a capsules for electrophoretic displays and methods for making the same in Figure 3 comprising of non-aqueous electrophoretic capsules comprising a halogenated polymeric shell and an electrophoretic composition enclosed therein wherein the electrophoretic composition comprises charged pigment particles or pigment-containing microparticles dispersed in a dielectric solvent.

However, Zang et al. does not disclose the fluorinated solvent or solvent mixture comprises perfluoropolyether or hydrofluoropolyether. Within the same field of endeavor, Rao et al. discloses a solvent mixture with perfluoropolyether (col. 14. line 25).

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the acoustic imaging apparatus with a dielectric solvent such as disclosed by Zang et al., with solvent comprising perfluoropolyether or hydrofluoropolyether such as discloses by Rao et al., for purpose of making electrophoretic solvent.

5. Claim 11 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zang et al. (U.S. Pat. 6,262,833 B1), as applied to claim 1 above, in view of Jacobson et al. (US Pat. 6,323,989 B1)

Zang et al. discloses a capsules for electrophoretic displays and methods for making the same in Figure 3 comprising of non-aqueous electrophoretic capsules comprising a halogenated polymeric shell and an electrophoretic composition enclosed therein wherein the electrophoretic composition comprises charged pigment particles or pigment-containing microparticles dispersed in a dielectric solvent.

However, Zang et al. does not disclose a contrast colorant. Within the same field of endeavor, Jacobson et al. discloses an electrophoretic medium with a contrast colorant (col. 2. lines 35-36).

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the acoustic imaging apparatus with a dielectric solvent such as disclosed by Zang et al., with electrophoretic composition comprising a contrast colorant such as discloses by Jacobson et al., for purpose of modifying particle surfaces.

***Allowable Subject Matter***

6. Claims 8, 9 and 62 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The reason for the indication of allowable subject matter is that (claim 8, 9, 62) the pigment particles are TiO<sub>2</sub> particle disclosed in the claims is not found in the prior art.

***Response to Amendment***

7. Applicant's arguments filed 12/16/2005 have been fully considered but they are not persuasive.

Applicant argued that the reference Zang et al. does not disclose a dielectric solvent. Zang et al. discloses a halogenated solvent, particularly a fluorinated, more particularly a perfluorinated solvent or a mixture thereof used as the dielectric solvent (see abstract and paragraph [0016]). Zang et al. further discloses alternative dielectric solvent in paragraph [0017] and [0059]. Another form of dielectric solvent used in Zang et al. is a fluorinated polyether solvent ([0060] and [0068], [0081] and [0082] and claim 51).

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyen Tra whose telephone number is (571) 272-2343. The examiner can normally be reached on Monday to Thursday from 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack, can be reached on (571) 272 - 2333. The fax number for this Group is (571) 273-8300.

TT

March 1, 2006



Handwritten signature of Tuyen Tra, dated March 1, 2006.